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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Liew Chuang Chiu

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EXAMINER

LIN, TINA M

ART UNIT

PAPER NUMBER

2874


DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/896,695

Applicant(s)CHIU ET AL. **Examiner**

Tina M Lin

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2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 and 40-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10,23,26 and 50-62 is/are allowed.
- 6) ☒ Claim(s) 1-9,11-22,24,25 and 40-49 is/are rejected.
- 7) ☒ Claim(s) 41 and 43 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 0902, 1003
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office action is responsive to applicant's communication submitted on 22 October 2003.

The applicant's arguments have been carefully studied and re-evaluated by the examiner. In regards to claims 1-9, 11-22, 24 and 25, the arguments advanced therein are not persuasive. In regards to claims 10, 23, 26 and 50-62, the arguments advanced therein, considered together with the amendments made to the claims are persuasive and the rejections based upon prior art made of record in the previous Office action are withdrawn. Furthermore, for the reasons stated in the previous office action, claims 10, 23, 26 and 50-62 are allowed. In regards to claims 40-49, the arguments advanced therein, considered together with the amendments made to the claims, are persuasive and the rejections based upon prior art made of record in the previous Office Action are withdrawn. In view of further search, however, and the consequent discovery of relevant prior art documents, a new rejection is set forth. This action is **not** made final.

Claim Objections

Claims 41 and 43 are objected to because of the following informalities: Notice that Claim 41 and Claim 43 are word for word the same claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-9, 11-22 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,901,263 to Gaio et al. and further in view of U.S. Patent 6,364,709 B1 to Jones. In regards to claims 1, 2, 6, 7, 9, 13, 14 and 19-22, Gaio et al. discloses a fiber optic module comprising of a latch to disengage and withdraw an optical module by sliding the module on an incline plane. Gaio et al. also discloses a tab that helps to determine which module in the assembly is to be removed and assists in the removal of the module. Gaio further discloses electro-optic transducers to convert optical signals to electrical ones and electrical signals into optical ones. Furthermore, the latch disclosed by Gaio et al. can be engaged and disengaged by pushing the latch from the lock or unlock position. Additionally, Gaio et al. discloses that the latch can be made of a metal or a polymeric material. (Column 3) But Gaio et al. fails to specifically disclose the optical fiber module to be withdrawn from a cage assembly and that the module is a SFP cage assembly. However, Jones discloses a SFP cage assembly to be connected to an optical module with the ability to convert optical signals to electrical signals, electrical signals to optical signals and with the ability to disengage the optical module. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art for the optical module to be withdrawn from a cage assembly and to use a SFP cage assembly. Gaio et al. also fails to disclose the pull-tab to include a shield to contain the EM radiation. However, Jones discloses that the cage to function as an EM shield for protection. (Column 1) Therefore, it would have been obvious at the time the invention was made to a person with ordinary skill in the art to have had a pull tab with a shield to contain EM radiation for protection.

In regards to claims 3, 4, 11, 15, 16 and 17, Gaio et al. discloses a pull mechanism but Gaio et al. and Jones fail to specifically disclose a push button or a kick actuator as the push actuator. However, since applicant has claimed two different types of push actuators, it is a non-critical feature of the invention. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used any desirable and optimal push actuator. Furthermore, Gaio et al. and Jones fails to specifically disclose where the pull tab and push actuator is located. However, since Applicant discloses more than one possible location for the push actuator and the pull-tab to be located, it is a non-critical feature of the invention. Additionally, the top and bottom of a fiber optic module is a relative term that can be defined in numerous ways depending on the orientation of the device. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have placed the pull tab and push actuator in a desirable location.

In regards to claim 8, Gaio et al. and Jones also fail to disclose two actuators. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have a second actuator for disengaging and withdrawing each optical module. Furthermore, both of the actuators are to perform the same purpose of disengaging the optical fibers. Moreover, it has been held that mere duplication of essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. vs. Bemis Co.*, 193 USPQ 8. Gaio et al. and Jones also fail to disclose indicator marks on the module, which the actuator releases from. However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have placed indicator marks in order to aid the technician to indicated if the optical module was released or not.

In regards to claims 12, 18, 24 and 25, Gaio et al. and Jones disclose a nose having a grip to pull out the module, a pull grip having dimples to prevent slippage and a handle on the pull tab to grip it with one or more fingers. However, having a nose with a grip on the fiber module, a pull grip having dimples or a handle are all components to aid in the more careful removal of the fiber optic module. Especially when handling PCB boards and other sensitive electronic devices, it would be obvious at the time the invention was made to a person having ordinary skill in the art to have included the features, a nose with a grip or a pull grip with a handle or dimples, for the aid in careful removal of sensitive components.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,901,263 to Gaio et al. in view of U.S. Patent 6,364,709 B1 to Jones, in regards to claim 1 and in further view of U.S. Patent 6,335,869 B1 to Branch et al. Gaio et al. and Jones disclose all discussed above, but fail to disclose grooves to slidably engage the fiber optic module. However, Branch et al. does disclose a removable transceiver module with grooves (40) in the cage assembly for the module to slide into. Therefore, if there are grooves in the cage assembly, there must be grooves in the pull actuator as well in order for the grooves to lock into place. (Figure 2) Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have grooves in the pull actuator for the purpose of engaging a fiber optic module or withdrawing a fiber optical module.

Claims 40-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,159,026 to Tomita in view of U.S. Patent 5,901,263 to Gaio et al. and U.S. Patent 6,364,709 B1 to Jones. In regards to claims 40-45, Tomita discloses a fiber optic module with a circuit board that slides into the housing with a push button to eject the modules from the housing. But

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Tomita fails to specify the function of the circuit board to be able to convert optical signals into electrical signals or electrical signals into optical signals. However, Gaio et al. also discloses a fiber optic module comprising a printed circuit board disengaging by sliding the module on an incline plane. Gaio further discloses the printed circuit board to contain electro-optic transducers to convert optical signals to electrical ones and electrical signals into optical ones. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a circuit board with the ability to convert optical signals into electrical signals or electrical signals into optical signals. Additionally, Tomita fails to disclose the optical fiber module to be withdrawn from a cage assembly. However, Jones discloses a cage assembly to be connected to an optical module that will ease the installation of a printed circuit board with the ability to convert optical signals to electrical signals, electrical signals to optical signals and with the ability to disengage the optical module. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art for the optical module to be withdrawn from a cage assembly.

In regards to claims 46 and 47, Tomita discloses pushing a push button to release a latch but fails to disclose a pull tab to further disengage the optical fiber module from the cage assembly. However, Jones discloses push and pull tabs around the entire cage assembly to close the cage around the optical module. Furthermore, Applicant discloses more than one possible location for the pull-tab to be located, thus it is also a non-critical feature of the invention. Additionally, the top and bottom of a fiber optic module is a relative term that can be defined in numerous ways depending on the orientation of the device. Therefore, it would have been

obvious at the time the invention was made to a person having ordinary skill in the art to have placed the pull tab in a desirable location.

In regards to claims 48 and 49, Tomita discloses inserting a circuit board into a housing and pushing the circuit board into the housing. But Tomita fails to disclose pushing the circuit board into a cage assembly. However, Jones discloses a cage assembly to be connected to an optical module that will ease the installation of a printed circuit board. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have used a cage assembly that is compatible to the printed circuit board for further protection from electrostatics and other external forces. Additionally, Tomita fails to disclose determining if the module is fully inserted into the assembly by checking if the push button is fully extended out. However, from Figure 1 and Figure 4 disclosed by Tomita, it can be observed that the ejector lever can be positioned in two different positions depending if the circuit board is in the housing or not. Therefore, if the ejector lever is in two different positions, by the mechanics of the push button and ejector bar, the push button will also be in two different positions depending on the position of the ejector lever. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have checked if the push button is fully extended out in order to determine the status of the printed circuit board.

Allowable Subject Matter

Claims 10, 23, 26 and 50-62 are allowed for the reasons indicated in the previous Office action and reiterated below. The prior art of record fails to disclose or reasonably suggest a push actuator with a push tab, shaft coupled to the push tab and hook coupled to the shaft. The prior art of record fails to disclose or reasonably suggest a pull-tab with an arm coupled to the fiber

module and a handle at the end of pull-tab. Lastly, the prior art of record fails to disclose a pull table with a pull grip, a lever arm coupled to the pull grip and a shield coupled to the lever arm and grounded.

In regards to claims 1-9, 11-22, 24 and 25, Applicant's arguments filed 22 October 2003 have been fully considered but they are not persuasive. Applicant argues that Gaio et al. discloses a hinged bail latch, which moves from a locked to unlock position. However, when moving the bail latch from a locked and unlocked position, it would require a pushing force to push the bail latch up or down depending on the orientation of the module.

Applicant's arguments, filed 22 October 2003, with respect to the rejection(s) of claim(s) 40-49 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of over U.S. Patent 6,159,026 to Tomita in view of U.S. Patent 5,901,263 to Gaio et al. and U.S. Patent 6,364,709 B1 to Jones.

The documents submitted by applicant in the Information Disclosure Statement have been considered and made of record. Note attached copy of form PTO-1449. None of the documents submitted by Applicant disclose or reasonably suggest the allowable subject matter discussed above.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Reference B discusses an optical module with a PC card ejected by a push button method. Reference B does not disclose or reasonably suggest the allowable subject matter discussed above.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M Lin whose telephone number is (703) 305-1959. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (703) 308-4819. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


TML

